

## REMARKS

[01] Amendments

[02] Amendments to the claims define the present invention with greater particularity. No new matter has been added.

[03] Objection to Claim 10

[04] Item 2 of the Office Action of April 19, 2007 objects to Claim 10 as, it is asserted, the limitation “that can serve as a model” is unclear. Applicants cannot follow the logic in this objection and doubt that one skilled in the art would interpret the claim as proposed in the Office Action. Nonetheless, Claim 10 has been amended so that the word “can” is no longer present, thereby addressing the objection.

[05] Statutory Subject Matter

[06] Item 4 of the Office Action rejects all pending claims for being directed to non-statutory subject matter. The claims have been amended to overcome this ground of rejection as explained below.

[07] Claim 1 now relates to a computer system, which qualifies as listed subject matter under 35 USC 101 and does not fall within a judicial exception of a law of nature, a natural phenomenon, or an abstract idea. Claim 1 does not pre-empt any law of nature, a natural phenomenon, or an abstract idea so the rejection cannot be based on pre-emption of judicially excepted subject matter. If the Examiner believes Claim 1 does pre-empt a law of nature, a natural phenomenon, or an abstract idea, Applicant's request that the

asserted pre-empted subject matter be identified in the next office action.

[08] As to the assertion that the claimed invention does not provide a useful result, it would be abundantly apparent to one skilled in the art from the language of Claim 1 that the invention allows the response of a computer cluster to a failure event to be evaluated without having the computer cluster actually suffer the failure event. For those not skilled in the art, this utility is clearly spelled out in the specification.

[09] As to the assertion that the claimed invention does not produce a tangible result, it is noted that Claim 1 is directed to a particular machine that inherently changes states (e.g., voltage levels) as it operates. There is nothing abstract about the operation of a computer system.

[10] As to the assertion that the claimed invention does not produce a concrete result, it is noted that "concrete" here means "repeatable". As computers are basically deterministic machines, their results are repeatable unless some effort is made to make them otherwise. Since nothing in Claim 1 suggests anything has been done to make the results irreproducible, the invention provides a concrete result.

[11] In summary, Claim 1 relates to subject matter listed in 35 USC 101 as statutory and does not relate to a recognized judicial exception nor does Claim 1 pre-empt a judicial exception. The practical application of the result is apparent from the claim language itself. Accordingly, the rejection for lack of statutory subject matter should be withdrawn with respect to Claim 1. A

*fortiori*, the section 101 rejections of dependent Claims 1-9 should be withdrawn.

[12] Claim 10 as amended relates to a computer-implemented method and thus to a process, one of the subject matters explicitly listed in 35 USC 101 as statutory. Claim 10 does not relate to a law of nature, a natural phenomenon, or an abstract idea. Claim 10 does not pre-empt a law of nature, a natural phenomenon, or an abstract idea. If the Examiner maintains that amended Claim 10 relates to or pre-empts a law of nature, a natural phenomenon, or an abstract idea, Applicant requests that he identify the law of nature, a natural phenomenon, or an abstract idea involved.

[13] The invention defined in Claim 10 produces a practical and useful result in that it allows the robustness of a computer cluster to be evaluated without subjecting the cluster to an actual failure. This practical and useful result would be apparent to one skilled in the art from the claim language itself. Since the invention is computer-implemented, the results are inherently tangible and concrete. Accordingly, the rejection of Claim 10 for lack of statutory subject matter should be withdrawn. *A fortiori*, the 101 rejections of dependent Claims 11-14 should be withdrawn.

[14] Common Ownership

[15] Item 7 of the Office Action raises the issue of whether any of the claimed subject matter was not commonly owned. For each and every claim, the subject matter has been commonly owned from the date of invention.

[16] Obviousness of Claims 1-14

[17] Item 8 of the Office Action rejects Claims 1-14 for obviousness given a combination of U.S. Patent No. 7,107,191 to Stewart et al., "Stewart" herein, and U.S. Patent No. 6,393,485 to Chao et al., "Chao" herein. All claims have been amended (either directly or by virtue of dependency from an amended claim) so these rejections are technically moot. However, to advance prosecution on the merits, these rejections are addressed as though applied to the amended claims. As applied to these amended claims, the rejections are traversed.

[18] Claim 1 defines a system for simulating the response of a computer cluster to a failure event. Stewart discloses a system for simulating the performance of a computer cluster and not a system for simulating the response of a computer cluster to a failure event. More specifically, Claim 1 requires a virtual-failure event selector and a virtual-cluster generator for generating virtual clusters in pre- and post- failure configurations. The Office Action recognizes that Stewart does not disclose these limitations, but asserts that Chao discloses these limitations.

[19] Chao discloses a clustered computer system that responds to failure events by reconfiguring itself. Teachings regarding simulation are confined to a single paragraph, set forth below:

Cluster Services also supports event simulation. When Recovery Services is invoked to simulate an event, it first clones the cluster configuration database. The event simulation will be performed on the private copy of the configuration database so that the original configuration database will not be affected. During a simulation, the EXECUTE statement which actually changes the state of physical resources. (*Chao, column 14, lines 60-67*)

- [20] While this paragraph mentions event simulation, it does not specify that the “events” include *failure events*. However, since Chao teaches that “Cluster Services supports event simulation”, it is most likely that the events being simulated correspond to events defined therein.

Events defined in Cluster services include but not limited to: BRING\_COMPUTER\_UP,  
BRING\_COMPUTER\_DOWN,  
BRING\_RESOURCE\_GROUP\_ONLINE,  
BRING\_RESOURCE\_GROUP\_OFFLINE, AND  
MOVE\_RESOURCE\_GROUP. (*Chao, column 13, lines 36-41*)

- [21] As described in Chao, these Cluster-Service events appear to be actions taken to reconfigure a cluster. While they may be taken in response to a failure, none of these events are failure events. Thus, it would appear that the purpose of Chao’s simulator is to allow a configure change to be planned without implementing each Cluster-service event as it is selected. Once a satisfactory reconfiguration is achieved, an EXECUTE statement can be issued to implement the reconfiguration. Note that if the event being simulated were a failure, there would be little point in executing the resulting configuration as disclosed by Chao. Thus, Applicants’ best

guess is that Chao's simulator simulates reconfiguration events and not failure events.

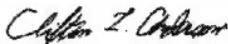
[22] Regardless of whether Applicants have correctly guessed the function of Chao's simulator, it is clear that Chao does not disclose a simulator with a failure event selector. Since neither Stewart nor Chao disclose this element required by Claim 1, no combination of these references can render Claim 1 obvious.

[23] Claim 10 also requires selecting a virtual-failure event. Since this limitation is not disclosed by either Stewart or Chao, Claim 10 should be allowable over the art of record. The dependent claims are allowable for the reasons given above for independent Claims 1 and 10 and for the following reasons. Each independent claim adds limitations that cannot be found in either reference. In particular, the only paragraph in Chao mentioning simulation is so vague that none of the additional limitations can be considered disclosed. Accordingly, all pending claims, as amended, should be held allowable over the art of record.

[24] CONCLUSION

[25] The objection to Claim 10 is overcome by amendment. The rejections based on non-statutory subject matter are overcome by amendment and the fact that the practical application of the invention would be apparent to those skilled in the art having read the claims. The rejections for obviousness are traversed since none of the cited references disclose a virtual failure-event selector. Accordingly, it is respectfully submitted that the application is now in condition for allowance, which allowance is respectfully requested.

Respectfully submitted,



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